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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------|------------------|
| 10/702,188 | 11/04/2003 | Swee Hock Alvin Lim | 14580-040001 / FP1988 | 7518 |
| 20985 | 7590 | 07/26/2005 | EXAMINER | |
| FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081 | | | DINH, DUC Q | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2674 | |
| DATE MAILED: 07/26/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/702,188

Applicant(s)

LIM ET AL.

Examiner

DUC Q. DINH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “plurality of column control input terminal arranged in unique pairs, one of the column control input terminals in a unique pair coupled to a column select switch and the other column control input terminal coupled to a column decoding switch” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Huang et al. (U. S. Patent No. 5,798,535), hereinafter Huang.

In reference to claim 1, Huang discloses in Fig. 7 an LED array comprising: a plurality of LEDs, 10, each with a first and second terminal, wherein the plurality of LEDs are arranged in a plurality of columns of LEDs having their first terminals electrically connected and a plurality of rows of LEDs having their second terminals electrically connected; a plurality of column select switches 50, each column select switch being coupled to a column of the LEDs; a plurality of column decoding switches (C0, C1..., C59), each column decoding switch attached to a plurality of column select switches 50 for selectively coupling a column reference voltage 54 through the column select switches to the columns of LEDs when both the column decoding switches and column select switches are activated; the column decoding switches activated sequentially and for each activated column decoding switch the corresponding plurality of column select switches activated sequentially to provide the column reference voltage sequentially to the columns of LEDs; and the LEDs in the array lit by providing a row reference voltage to the rows having LEDs to be lit when a column is coupled to the column reference voltage (col. 5, line 49 – col. 6, line 18).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made:

5. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang in view of Walczak (EP 0597226A1).

In reference to claim 2, Huang discloses column selecting switch 50 is connected to programmable power source 54 on data line C.sub.0 by a switch or circuit within programmable power source 54 (illustrated as a block 72), or by otherwise completing a circuit to programmable power source 54. Huang does not disclose a column control input terminal being coupled to two of the column select switches for selectively activating the column select switches when an active column control input signal is provided. Walczak discloses a LED matrix array using a column control input terminal for two column select switches as claimed.

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to learn the teaching of Walczak, i.e.: using a column control input terminal for two column select switches, in the device of Huang, for reducing the number of input control terminal by one half to decrease the cost of the device (col. 1, lines 35-41).

In reference to claim 3, Huang discloses the transistor 50 for column switch. In addition, the NPN and PNP transistors is also used (col. 5, lines 7-25).

In reference to claim 4, Huang discloses in Fig. 7, a plurality of row select switches 60, each row select switch being coupled to a row of LEDs; a plurality of row decoding switches 74,

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each row decoding switch coupling to the row current sink 64 and is activated in sequence by the programmable current sink 64 (col. 6, lines 10-17).

In reference to claim 5, Huang discloses everything except a row control input terminal being coupled to two rows. As discussed above in claim 2, it would have been obvious for one of ordinary skill in the art at the time of the invention was made to learn the teaching of Walczak, i.e.: using one control input terminal for two rows, in the device of Huang, for reducing the number of input control terminal by one half to decrease the cost of the device (col. 1, lines 35-41).

In reference to claim 6, Walczak discloses in Fig. 2 a plurality of column control terminal arranged in unique of pairs 21-22 and 23-25 as claimed. Huang discloses the one of the column control terminal connected to the select switch and the other column control terminal coupled to the switch 72 as claimed.

Conclusion

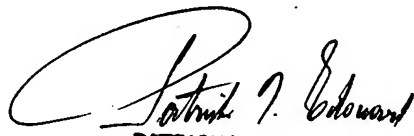
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DUC Q DINH whose telephone number is (571) 272-7686. The examiner can normally be reached on Mon-Fri from 8:00.AM-4:00.PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edouard Patrick can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DUC Q DINH
Examiner
Art Unit 2674



PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER

DQD
July 22, 2005